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# Plumage "atavism" in a Black-crowned Night Heron *Nycticorax nycticorax*

*by M. Gochfeld, P. A. Buckley, Francine G. Buckley*

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Herons with abnormally white plumage have seldom been reported, probably because white species, age-classes or colour morphs normally occur in many genera of the Ardeidae (see particularly for detailed discussion Berlioz 1949 and Hancock & Elliott 1978). On 12 June 1978, during a helicopter survey-census of colonially breeding waterbirds on Long Island, New York (Buckley & Buckley 1980), we flushed a whitish heron with a group of Black-crowned Night Herons *Nycticorax nycticorax* in a heronry on Gardiner's Island, Suffolk County, New York. Following up our initial impression of a ghostly cream-white night heron, we were surprised to see a bird whose white primaries stood out in contrast to the pale beige mantle and upper wing coverts with fine olive shaft streaking, a character combination immediately calling to mind the Squacco Heron *Ardeola ralloides,* a Eurafrican species which has not been reported in the Western Hemisphere. The bird, however, seemed to have the blackish crown of a night heron. We landed and explored the colony on foot and P.A.B. was able to obtain a sufficiently good view to ascertain that the bird had a black crown, yellow-green legs, red eyes, and a stout blackish bill, all characteristics of an adult Black-crowned Night Heron. Only the very pale back colour was abnormal for this species.

The presence of normally coloured soft parts and crown suggests that leucism, one possible explanation, might not be the proper one. It is more likely that this individual was exhibiting a melanic schizochroism (loss of one of the 2–3 melanins normally occurring in its plumage). Although such schizochroic birds are often mistakenly referred to as leucistic, "partial albinos" (a contradiction in terms since albinism is an all-or-none phenomenon), or dilute individuals, these terms all represent separate genetic manifestations (see Buckley (1982) for distinctions among them).

The body-wide loss of melanin pigmentation in all but the crown, with normal carotinoid pigmentation, is more consistent with melanic schizochroism than with leucism. Which specific melanin might be involved is

unknown, as we find nothing published on night heron melanins nor their mode of inheritance. Difficult to reconcile with any of these explanations was the presence of the pale brownish back feathers. This might have been interpreted as an immature condition, but the back feathers of the Black-crowned Night Heron are among the first to change from the immature pattern (brown with white spots) to the adult (black) colouration. However, in this individual the back feathers were neither brown nor spotted, but were a pale beige colour with darker olive shafts, and we do not consider this to represent a case of neoteny—the retention of some juvenile characteristics by otherwise mature individuals.

The most significant aspect of this aberrant colouration is that the atypical plumage pattern closely resembled the normal plumage pattern of some members of the not-too-distantly related genus *Ardeola*. We consider this case analagous to previous reports of hybrids which resembled neither parental species in plumage, but instead rather a closely related third species or an inferred "ancestral" form. This phenomenon, termed plumage atavism, has been most extensively reported in waterfowl (e.g. Harrison & Harrison 1963, 1969, 1971, Gillham *et al.* 1966), and is summarized in Buckley (1982). The appearance of atavistic patterns has been generally interpreted as indicating the close genetic affinity of the taxa involved, and although no genetic data have ever been produced, these patterns are alleged to result from the reconstruction or recombination of ancestral genotypes and phenotypes in living animals.

Apart from the evolutionary implications, reports of abnormal pale or white plumage in herons are few. Sage (1962) reported an abnormal Grey Heron *Ardea cinerea* and Eurasian Bittern *Botaurus stellaris,* and Ross (1963) reported an American Bittern *B. lentiginosus* with a single white feather. On 12 May 1969 at Turrialba, Costa Rica, M.G. saw a Green Heron *Butorides virescens* with asymmetric white patches on the face, neck, and throat, and 2 white inner secondaries on the left wing. The prevalence of all-white species, of morphs and of juvenal plumages in the family hampers the detection of abnormally white plumages. The present report of an aberrant plumage resulting in a partially atavistic pattern, appears to be the first reported in the Ardeidae and one of the few outside the waterfowl.

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# The Lesser Whistling Duck *Dendrocygna javanica* (Horsfield) in Flores

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Rensch (1931a: 504) reported 2♀♀ specimens of *Dendrocygna javanica* (Horsfield) from Sumbawa Island. These specimens were collected by J. Elbert in Dompu (8° 32′ S, 118° 28′ E) on 21 December 1909. This record seems to have been overlooked by Peters (1931: 153), Scott (1965: 34), Delacour (1975: 31, 44), and Howard & Moore (1980: 69), since none mentions that *D. javanica* occurs on the islands east of Wallace's line. In addition, Paynter (1963) recorded a wing of this species collected on Flores in 1956; and Schmutz (1977) recorded a ♂ on Flores with enlarged gonads in November.

In the collection of the Museum Zoologicum Bogoriense there are 2 ♂♂ of *D. javanica* from Flores Island (registered numbers 14499 and 14500) which were collected in Reo (8° 19′ S, 120° 30′ E) in 1911:– wings 185.0, 191.0; tails 45.0, 47.0; exposed culmens 40.0, 40.0; tarsi 50.0, 49.0 mm, respectively. Thirteen other specimens, of 9 different species, bearing similar data and field labels to those of the above two *D. javanica* males, were reported by Rensch (1931b: 400). The collector's name, Endih, appeared on some of the field labels. Rensch, however, did not mention these *D. javanica* specimens in his subsequent publications.

The occurence of *D. javanica* on the islands of Sumbawa and Flores could be considered as stragglers, despite Schmutz record, and it is quite likely that unusually heavy rainfall creating suitable habitat could have affected their movement (*cf.* Delacour 1975: 44). The average yearly rainfall in Dompu during a period of 15 years (1925–1941) was 1354.0 mm, while the highest average monthly rainfall (278.0 mm) during the same period was for December (Berlage Jr. 1949: 156). The actual rainfall in December 1909 in Dompu could not be obtained. Reo's total rainfall in 1911 was 1098.0 mm. It is interesting to note that the monthly rainfall for January, February, November and December 1911 was 81.0, 344.0, 62.0 and 395.0 mm respectively (cf. Koninklijk . . . 1915: 80, 81). It is most likely, then, that the 2♂♂ specimens of *D. javanica* from Flores Island were collected either in February or in December 1911.

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